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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/770,617
Filing Date: February 02, 2004
Appellant(s): EIS ET AL.

Alfred K. Dassler
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 25 October 2007 appealing from the Office action mailed 06 February 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows: The 112 rejection is withdrawn.

WITHDRAWN REJECTIONS

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner. The rejection of claims 1, 3-27 and 29 under 35 USC 112, second paragraph.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

4,373,943	GOURONNEC	2-1983
4,204,852	WATTS	5-1980
5,062,876	JENSEN	11-1991
5,735,927	SANGHERA	4-1998
2002/0078715	ISHIHARA	6-2002
6,053,013	OH	4-2000
2003/0079501	LEE	5-2003
3,304,163	HOLSCHLAG	5-1961

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 3-11, 18-19, 21-23, 27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gouronnec 4373943 alone or in view of Watts 4204852 and Jensen 5062876, as set forth in the final Office action, which relies on Official Notice for claims 9-11, and 21.

Claim 1: A device for producing optical glass fibers,

See, for example, Gouronnec's Abstract.

It is undisputed that Gouronnec teaches this limitation.

comprising: a fiber furnace having heating bushes

See Gouronnec's figure 3A and col. 4, line 64-67. 56 is one bush; it is clear that there are three more bushes.

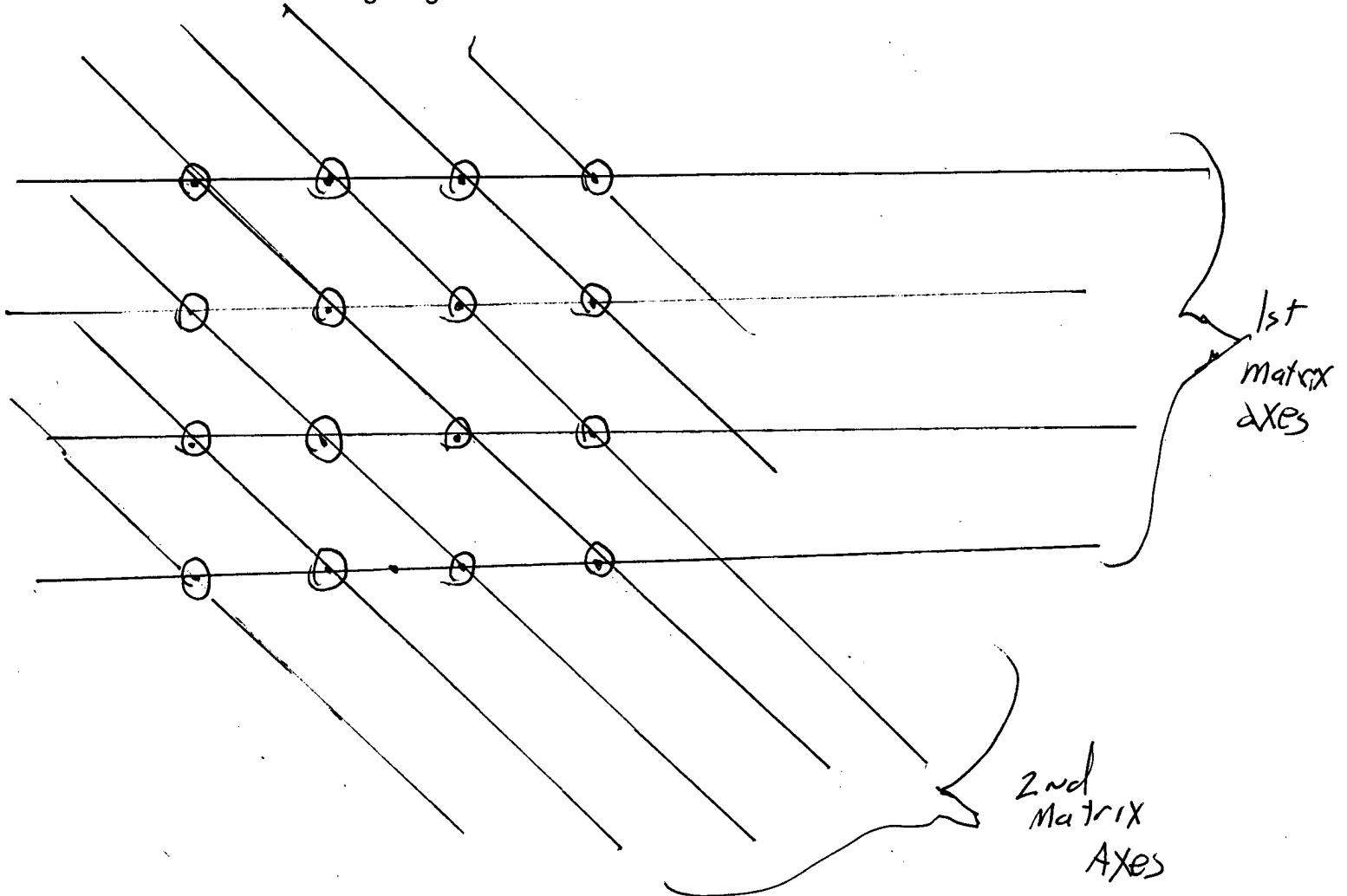
It is undisputed that Gouronnec teaches this limitation.

disposed as a matrix configuration for simultaneously receiving a number of preforms, said matrix configuration having mutually parallel first matrix axes and mutually parallel second matrix axes disposed at an angle of less than 90° with respect to one another,

Gouronnec does not disclose this. However, at column 3, lines 67-68 Gouronnec teaches to have 10 or more fibers. Gouronnec does not teach how to arrange more than four fiber preforms. Gouronnec shows a 2x2 matrix (figure 3B and 2A). It would have been obvious to arrange them in rows, so as to fit as many together as possible. It would have been obvious to include as many rows as desired - for example 3x3 or 4x4. Such would have been an obvious arrangement, since humankind has been arranging things in rows and columns for eons. All this is undisputed.

Examiner finds that such an arrangement (e.g. a 4x4 matrix) would have mutually parallel first matrix axes and mutually parallel second matrix axes disposed at an angle of less than 90 degrees with respect to one another. (This is disputed by Appellant) The PTO is obligated to give claim terms their broadest reasonable construction consistent with the enlightenment found in the specification by way of definition or otherwise. Nothing in the claims or specification limits the basis for setting the axes. Hence the appealed claims read on any series of locations or points that define an axis.

Specifically, a regular 4x4 matrix clearly reads on this limitation as can clearly be seen in the following diagram:



and each of said first matrix axes intersecting each of said second matrix axes within a boundary of said matrix configuration,

This is clearly met, as can be seen in the above drawing.

and said heating bushes being disposed at respective crossing points of said first and second axes;

This is clearly met, as can be seen in the above drawing.

a follow-up device configured to hold and feed the preforms into said heating bushes;

See feature 42 of figure 3A of Gouronnec. 46 does the holding. It is clearly capable to feed the preforms (see col. 4, lines 59-60).

It is undisputed that Gouronnec teaches this limitation.

a drawing and sizing installation configured to receive glass fibers drawn from the preforms in said heating bushes such that the glass fibers lie next to one another as a band when being received by said drawing and sizing installation;

Features 8, 10 and 12 comprise the drawing and sizing installation. The coating device 8, can be used to apply sizing as the coating, because 1) the use of sizing is an intended use, not structure, 2) there is a reasonable expectation that the coating apparatus could be used to coat with most any liquid – for at least a brief period – including size. The fibers clearly lie in a band when they enter the installation at 8.

It is undisputed that Gouronnec teaches this limitation.

and a making-up device configured to receive the glass fibers from said drawing and sizing installation.

Figure 2B shows the making-up device which is capable of receiving the fibers - since the drawings show it receiving the fibers.

It is undisputed that Gouronnec teaches this limitation.

Applying Watts and Jensen

Watts is cited as teaching more than 1000 fibers (col. 2, line 30). Jensen is cited as showing it is known to draw fibers in rows and columns (figure 4) and, more

importantly, to stagger the rows (like applicant has done) so as to maximize the packing density (col. 3, lines 27-33). It would have been obvious to arrange the Gouronnec preforms in staggered rows so as to maximize the packing density as taught by Jensen.

Claim 3: A square is a rhomboid. This is undisputed. Thus a 4x4 arrangement (or any other square arrangement) meets the claim language.

Claims 4-6 is clearly met.

Claim 7: As indicated above, Watts teaches more than 1000 fibers.

Claim 8: Having about 1000 bushes would result in a matrix such as 30x30, or 10x100, or 20x50. Most possible arrangements of 1000 bushes (in rows) would have at least 11 bushes in both rows.

Claims 18-19 and 23: See Gouronnec, col. 4, line 58.

Claim 22 it is deemed that anything can be moved manually by using a large enough force. Furthermore, generic manual means are generally not a patentable invention.

Claim 23 is clearly met. Still further for claim 23: any position could be a service position. It simply depends upon what sort of servicing one wishes to perform.

Claim 27: Figure 2A reasonably suggests that 2 fibers pass over one roller and the other 2 pass over the others. Nevertheless it is clear that if feature 4 were to have 10 fibers/bushes as disclosed in Gouronnec, that there would be fibers (i.e. at least 2 from one half) that would pass over one roller, and fibers from the other half would pass

over the second. Furthermore, the passage of fibers is method, not structure: the 10 fiber invention would clearly be capable of meeting the passing requirement.

Claim 29: Furnaces can receive nearly anything that is small enough to place inside -including preforms.

Claims 9-11, and 21

Claim 9: At the bottom of page 8 of the 10/13/2005 Office action, Examiner took Official Notice that it was well known to use temperature controllers to control furnaces so as to provide the desired temperature/heating of the furnace. As indicated in the 3/10/2006 Office Action, such is now considered admitted prior art, since the Notice was not traversed. Examiner indicated it is nearly impossible to get a desired temperature without some sort of controller; this is undisputed. It would have been obvious to provide controllers to the independent furnaces so as to accurately provide the optimal temperatures for the process.

Claim 10: Examiner also took Official Notice (which is also now considered admitted prior art) that temperature controllers inherently have devices which measure temperature, and structure which adjust the temperature. One cannot control temperature without first knowing what the temperature is.

Claim 11: Examiner took further Official Notice that diffusers are well known in the art – and are used for the same reason appellant uses them: to diffuse heat to more evenly apply the heat to the end of the preform. This is also now considered admitted

prior art. It would have been obvious to use a diffuser in the each of the independent furnaces, so as to diffuse the heat as is typical. Alternatively, it is deemed that the receptor of the induction furnaces (col. 2, line 59) reads on the claimed diffuser, because it diffuse heat.

Claim 21, Figure 2a clearly shows a threaded spindle, a motor and a guide. Alternatively, it would have been obvious to one of ordinary skill that that figure 2a reasonable shows a threaded spindle, a motor and a guide. Examiner also took Official Notice that such are conventional preform feeding structures – such is now admitted prior art. However there is no indication that the motor is geared. However a geared motor is disclosed at col. 6, lines 19-20 – it would have been obvious to use a geared motor, based on what sort of motors one have available, for the desired feed rate.

Claims 1 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sanghera in view of Gouronnec, Watts 4204852 and Jensen 5062876 and Ishihara 2002/0078715.

Sanghera does not teach the multiple bush/preform/draw structure required by the claims. Sanghera just teaches the single fiber approach. It would have been obvious to apply the Gouronnec, Watts and Jensen teachings of drawing many adjacent fibers(as discussed above) to the Sanghera method for the advantage of creating a cable able to carry an increased amount of data with a single cable. A cable with 10 fibers (as taught by Gouronnec) or 1000 fibers (as taught by Watts) would be able to carry 10 times or 1000 times, respectively, the data as the single fiber of Sanghera.

As to claim 12, Sanghera only teaches one coil. But Ishihara teaches to divide the heating device into portions and to individually control their heating so as to reduce Rayleigh scattering: Ishihara [0058], Abstract and [0059]. It would have been obvious to divide the Sanghera coil into sub-units so as to better control the heating as taught by Ishihara. 106 is the diffuser.

Claims 1 and 11 and 13-17 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sanghera in view of Gouronnec, Watts and Jensen teachings (as discussed above).

See how Sanghera and Gouronnec are applied above.

Claim 13: see Col. 4, lines 53-54 of Sanghera.

Claims 14-15: see features 116 and/or 14 of Sanghera. It is noted that providing laminar flow is a method of use step and not structure. In as much as applicant merely provides an opening, Sanghera reads on the invention because it provides an opening. Whether any flow results in applicant's device depends entirely upon the size of the fiber/preform and other parameters.

Claims 11 and 16 are clearly met.

Claim 17: see feature 116 of Sanghera.

Claim 24, Sanghera's lower portion of tube 106 is deemed to be a flow collar as claimed. As for the functional step – such is an intended use, not structure. Each flow

collar would serve to delay the cooling of others – depending upon any heat source applied.

Claims 1, 18 and 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Oh 6053013 in view of Gouronnec 4373943, Watts and Jensen teachings (as discussed above).

Oh teaches the basic invention, but not the multiple bushes, the follow device, and the other features of claim 1. It would have been obvious to improve the Oh invention, by multiplying all the parts in the manner that Gouronnec teaches, so as to be able to make a single multiple-fiber cable in a single process. All of the features of claim 18 are taught by Gouronnec as discussed above.

Claim 20: Oh teaches the use of a vacuum device as claimed.

Claims 25-26 rejected under 35 U.S.C. 103(a) as being unpatentable over Lee or Gouronnec, Watts and Jensen teachings as applied to claim 1 above, and further in view of Holschlag 3304163 (and optionally Watts 4204852).

[It appears the “Lee or” phrase appears to the result of poor editing. It appears to neither add or subtract from the content of the rejection. It can be treated as extraneous information. In other words: the combination can also be interpreted as only: Gouronnec, Watts and Jensen teachings as applied to claim 1 above, and further in view of Holschlag 3304163 and optionally Watts 4204852.]

The primary references do not teach the cooling zone – but such is not structure and it is inherent that the fibers are cooled as discussed above. The primary references do not teach a funnel. However it is known that when drawing large number of fibers, that such drags along a large amount of air which causes problems as disclosed in Holschlag (col. 1, line 26 to col. 2, line 7). The solution to this problem is to utilize funnel-type guides (see Holschlag drawings and col. 4, lines 43-71). It would have been obvious to utilize Holschlag's teachings (i.e. the use of funnels) to improve the drawing process so as to prevent the problems that Holschlag teaches.

Watts is optionally cited to show it would have been obvious to draw a large number of fibers (more than 1000 fibers) (see above).

(10) Response to Argument

It is argued that the August 29, 2006 Office action was in error because the axes of the drawing in the March 10, 2006 Office action do not have mutually parallel lines. This is not very relevant because the March 10, 2006 rejection is not relevant: Applicant amended the claims, which caused the new rejection which relies on a 4x4 matrix. Examiner has agreed (on the record) that the present claims define over an apparatus with a 2x2 matrix.

It is further argued that "such configurations" (Brief, page 20, line 4) may have mutually parallel axes, but such does not necessarily mean they must have mutually parallel axes with an angle of less than 90 degrees. It is presumed that "such configurations" is in reference to the 4x4 square matrix referred to in the rejection.

Appellant has not given any rationale to support this assertion. Nevertheless, Examiner disagrees with appellant's assertion. It is largely impossible to have not have mutually parallel axes with the angle less than 90 degrees. In the February 6, 2007 Office action, Examiner refers to a square matrix, and on page 9 of the 8/21/2006 Office action (page 9, first full paragraph) Examiner refers to a "regular 4x4 matrix". Examiner cannot imagine any regular 4x4 matrix that does not meet the present claim language. In that page 9 paragraph Examiner made a finding that "...a regular 4x4 matrix reads on the claims...." Appellant has failed to reasonably point out any error in this finding. Appellant merely surmises that it not necessarily reads on the claims. It would seem that appellant could easily disprove this finding (were it possible) merely by providing the Office a drawing of an example where it is not true. A square array would have rows of 45 degrees. There would also be angles that correspond to arctangent of $\frac{1}{2}$, arctangent ($\frac{1}{3}$), arctangent ($\frac{2}{3}$) etc.

It is argued that Jensen's tips are completely different from the claimed heating bushes, and thus Jensen does not disclose a matrix configuration as recited by claim 1. Examiner understands that differences exist between the prior drawing modes for making fibers – there are almost always differences between the methods of two references. However, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d

413, 208 USPQ 871 (CCPA 1981). On page 9 of the 8-21-2006 action, Examiner found that it would have obvious to arrange preforms in staggered rows so as to maximize the packing density, as taught by Jensen. The rejection also relied on Watts which teaches 1000 fibers; clearly with 1000 preforms, packing density would be an important consideration. No rejection states using the Jensen bushing instead of the Gouronnec bushes would have been obvious; the rejection relies on using the Gouronnec bushes using the Jensen *pattern*.

As to the argument that Gouronnec does not teach the parallel axes and angle as claimed: This is true as indicated in the rejection as part of the *Graham v. John Deere Co.* analysis. This is not relevant: such a matrix would have been obvious for the reasons set forth in the rejection.

It is also argued that Examiner contradicted himself when he stated that the rejection does not assert Jensen discloses the matrix configuration. Examiner did not state such. Regardless, Appellant requests the Board disregard the comments (of the second full paragraph of page 9, of the 2/6/2007 Final Rejection). Examiner agrees that such can be safely disregarded, to avoid confusion. The rejection stands by itself, no argument by Examiner should be interpreted as contradicting the rejection. Examiner apologizes for any apparent contradiction.

Appellant now attempts to traverse the Official Notice. The traversal is unseasonal. Such was already found to be admitted prior art. See the top of page 7 of the 3/10/2006 Office action and MPEP 2144.03. Appellant argues that the Official Notice should not be treated as admitted prior art because Appellant thought the

independent claim was allowable. As far as Examiner can tell, this is not sufficient basis for withdrawing the Official Notice - nor does Appellant point out how this is relevant.

Claim 11 is argued to be allowable, for the additional reason that the references do not teach the diffuser. This is not convincing. The Official notice, which subsequently has been treated as admitted prior art, provides this limitation.

As to the argument that Sanghera and Ishihara do not disclose the claimed matrix configuration: This does not appear to be relevant because the rejection sets forth that Sanghera does not disclose such features. Nevertheless, the matrix would have been obvious for the reasons set forth in the rejection – see rejection. It is undisputed that it would have been obvious to apply the Gouronnec, Watts and Jensen teachings to the Sanghera method for the advantage of being able to carry an increased amount of data with a single cable.

As to the argument that Sanghera does not disclose the claimed heating element and a diffuser. See feature 106 of Sanghera -such is a diffuser. Appellant has not disputed this. Feature 104 is clearly a heating element (Sanghera, col. 4, line 53).

It is argued claim 14 does not have a method step. Examiner agrees, but fails to see any relevance.

It is argued that Examiner's statement, "In as much as applicant merely provides an opening, Sanghera reads on the invention because it provides an opening" is incorrect because Sanghera does not disclose that the opening is configured for creating a laminar flow. Examiner disagrees. From MPEP 2112: "The express, implicit, and inherent disclosures of a prior art reference may be relied upon in the

rejection of claims under 35 U.S.C. 102 or 103." Thus a rejection under 35 USC 103 can still be proper even though the laminar flow is not expressly taught. Clearly, any opening can create a laminar flow - by using low enough pressure differentials (which would create very low speeds). Likewise substantially any opening could create turbulent flow, by having a high enough pressure and other gas flows impinging. For example, hypersonic flows at an angle. Appellant has not given any reason why one might expect that one could not have laminar flow.

To put it another way: all that is need for laminar flow is empty space through which material can flow. Sanghera has an empty space.

To put it yet another way: The Office found that the broadest reasonable interpretation for this limitation reads on anything which "merely provides an opening". Appellant has not disputed that this is what the claim reads on. Appellant has not shown or argued that this is an unreasonable interpretation. Thus merely providing an opening is sufficient to read on the broadest reasonable interpretation.

It is also argued that the recitation of the flow device is not an intended use. Examiner apologizes for anything which suggested that such was how Examiner interpreted a claim. Examiner interpreted the "for creating" as an intended use. Clearly one could not avoid infringement by copying Appellant's device exactly but be sure that no air flows in it prior to shipping it overseas, or to have the flow device "for making money". It is structure required by the claim that must be considered, the intention (be it for creating laminar flow, for making lots of money, or for creating turbulence) carries very little weight. That is, the weight it does carry fails to distinguish it from the prior art.

It is noted that the claim does not recite that the structure actually be "capable of creating laminar flow". Nor can Examiner find any argument/admission by Appellant which suggests the claim implicitly requires it be capable of creating laminar flow.

As to the arguments regarding Oh, Lee and Holschlag: the piecemeal analysis is not very relevant. The rejection sets forth why the claimed invention would have been obvious to one of ordinary skill at the time of the invention. The fact that neither Oh nor any of the secondary references does not anticipate all of the claim features, is not very relevant. The combination of references sets forth why the invention would have been obvious.


(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

John Hoffmann



12-17-07

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